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June 11, 2001

Date

Sandy Reisman
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Present Application

Applicants : Kenneth H. Abbott, Joshua M. Freedman, Dan Newell, and
James O. Robarts

Filed : June 11, 2001

For : SUPPLYING NOTIFICATIONS RELATED TO SUPPLY AND
CONSUMPTION OF USER CONTEXT DATA

Docket No. : 294438022US3

Prior Application

Application No. : 09/724,949

Filed : November 28, 2000

Art Unit : 2173

Confirmation No. : 8651

Commissioner for Patents
Washington, DC 20231

PRELIMINARY AMENDMENT

Sir:

Please amend the application as follows:

In the Specification:

Please replace the paragraphs beginning at lines 4 and 11 of page 1 with the following paragraphs, respectively.

This application is a continuation of U.S. Patent Application No. 09/724,949, filed November 28, 2000 and currently pending. U.S. Patent Application No. 09/724,949 is a continuation-in-part of U.S. Patent Application No. 09/216,193, entitled "METHOD AND SYSTEM FOR CONTROLLING PRESENTATION OF INFORMATION TO A USER BASED ON THE USER'S CONDITION" and filed December 18, 1998, and a continuation-in-part of U.S. Patent Application No. 09/464,659, entitled "STORING AND RECALLING INFORMATION TO AUGMENT HUMAN MEMORIES" and filed December 15, 1999, both of which are hereby incorporated by reference in their entirety.

U.S. Patent Application No. 09/724,949 also claims the benefit of provisional U.S. Patent Application No. 60/194,222 (Attorney Docket No. 294438022US), entitled "SUPPLYING NOTIFICATIONS RELATED TO SUPPLY AND CONSUMPTION OF USER CONTEXT DATA" and filed April 2, 2000, and of provisional U.S. Patent Application No. 60/193,999 (Attorney Docket No. 294438008US), entitled "OBTAINING AND USING CONTEXTUAL DATA FOR SELECTED TASKS OR SCENARIOS, SUCH AS FOR A WEARABLE PERSONAL COMPUTER" and filed April 2, 2000, both of which are hereby incorporated by reference in their entirety.

In the Claims:

Please cancel claims 1-71 and 76-81.

Please add the claims as follows:

82. (New) A method in a wearable computer for providing information about a current state of a user of the wearable computer, the current state modeled with multiple state attributes, the wearable computer executing a plurality of state server modules to supply values for the state attributes, executing a plurality of state client modules to receive and process values for the state attributes, and executing an intermediary module to facilitate exchange of state attribute values, the method comprising:

under control of each of the executing state server modules, sending to the intermediary module values for at least one of the state attributes;

under control of multiple of the executing state client modules, sending to the intermediary module requests for values for at least one of the state attributes; and

under control of the intermediary module,

receiving the sent state attribute values and the sent state attribute value requests;

in response to the received state attribute value requests, sending at least some of the received state attribute values to at least some of the state client modules;

analyzing the received state attribute value requests in order to determine events related to the received state attribute value requests such that occurrences of the determined events may be of interest to at least some of the state client modules; and

without other intervention from the state client modules,

determining to monitor for occurrences of the determined events; and

when the monitoring detects an occurrence of one of the determined events, notifying at least one of the state client modules of the detected occurrence,

so that state client modules can automatically be notified of occurrences of events of interest.

83. (New) The method of claim 82 wherein the analyzing of the received state attribute value requests from one of the state client modules indicates an interest in receiving values from a specified state server module, and wherein the determined event is related to the specified state server module becoming available or unavailable to supply state attribute values.

84. (New) The method of claim 82 wherein the analyzing of the received state attribute value requests from one of the state client modules indicates an interest in receiving values from a specified state attribute, and wherein the determined event is related to a state server module becoming available or unavailable to supply values for the specified state attribute.

85. (New) The method of claim 82 including, under the control of the intermediary module:

receiving a notification request for a specified type of event from one of the modules such that the module will be notified when the specified type of event occurs;

in response to the receiving of the notification request from the module, monitoring occurrences of events in order to detect an occurrence of the type of event specified for that notification request; and

when an occurrence is detected of the type of event specified by the notification request from the module, notifying the module of the occurrence.

86. (New) The method of claim 82 wherein the determining of at least some of the events includes determining a number of times that the notifying of detected occurrences of that determined event is to occur.

87. (New) The method of claim 82 wherein the determining of at least some of the events includes determining times during which the notifying of detected occurrences of that determined event is to occur.

88. (New) The method of claim 82 wherein the monitoring for occurrences of the determined events includes analyzing received state attribute values or received messages.

89. (New) The method of claim 82 including, under the control of the intermediary module:

receiving from a first of the state client modules an indication of a condition related to values of one or more specified state attributes, the indicated condition such that the first state client module desires to know when the condition has been satisfied;

determining whether any received values for the specified state attributes satisfy the condition; and

when it is determined that the condition is satisfied, notifying the first state client module.

90. (New) The method of claim 82 including, under the control of a first of the state client modules:

receiving a sent current value from the intermediary module; and

presenting information to a user of the first state client module based on the receiving of the value.

91. (New) The method of claim 82 wherein the analyzing of the received state attribute value requests includes detecting patterns in the requests.

92. (New) The method of claim 82 including analyzing responses of the state client modules to situations in order to determine events whose occurrences may be of interest to at least some of the state client modules.

93. (New) The method of claim 82 including monitoring activities of the state client modules in order to determine events whose occurrences may be of interest to at least some of the state client modules.

94. (New) The method of claim 82 including analyzing received messages from the state client modules in order to determine events whose occurrences may be of interest to at least some of the state client modules.

95. (New) The method of claim 82 including analyzing the received state attribute values in order to determine events whose occurrences may be of interest to at least some of the state client modules or the state server modules.

96. (New) The method of claim 82 wherein the determining of events that may be of interest is performed for each of multiple of the state client modules by analyzing state attribute value requests that are received from that state client module, and wherein the notifying of the state client modules of a detected occurrence of one of the determined events includes notifying the state client module whose state attribute value requests were used to determine that one event.

97. (New) A method in a computer for providing information about a current state that is modeled with multiple state attributes, the method comprising:

automatically analyzing received information related to at least one of the multiple state attributes in order to determine at least one type of occurrence that may be of interest to at least one determined module;

after the determining of the type of occurrence, detecting an occurrence of the determined type; and

notifying the determined modules of the detected occurrence.

98. (New) The method of claim 97 wherein the detecting of the occurrence includes monitoring received information.

99. (New) The method of claim 97 wherein the detecting of the occurrence includes detecting changes in the modeling of the current state.

100. (New) The method of claim 97 wherein the determined type of occurrence is satisfaction of a condition related to a value of at least one of the state attributes, and wherein the detecting of the occurrence includes analyzing changes in the values of the at least one state attributes in order to determine when the condition is satisfied.

101. (New) The method of claim 97 wherein at least one of the determined modules is a source of values for at least one of the state attributes.

102. (New) The method of claim 97 wherein the at least one of the determined modules is a consumer of values for at least one of the state attributes.

103. (New) The method of claim 97 wherein the determined type of occurrence is a change in a value of a determined state attribute.

104. (New) The method of claim 97 wherein the determined type of occurrence includes a source becoming available to supply values for a determined state attribute.

105. (New) The method of claim 97 wherein the determined type of occurrence includes availability of a value of a determined state attribute that satisfies a determined criteria.

106. (New) The method of claim 97 wherein the determined type of occurrence includes a determined source becoming available to supply state attribute values, and wherein the detecting includes determining that the determined source is currently able to supply state attribute values.

107. (New) The method of claim 97 wherein the determined type of occurrence includes a determined client becoming available to receive state attribute values.

108. (New) The method of claim 97 wherein the determined type of occurrence includes at least one client expressing an interest in receiving values of a determined state attribute.

109. (New) The method of claim 97 wherein the computer has access to various devices, and wherein the determined type of occurrence includes a value of one of the state attributes indicating that access to a determined device has become available.

110. (New) The method of claim 97 wherein the determined type of occurrence includes access to a determined group of themed attributes becoming available.

111. (New) The method of claim 97 wherein the providing of the information about the current state is performed by a characterization module, and wherein the determined type of occurrence includes a value of one of the state attributes indicating that access to determined other functionality provided by the characterization module has become available.

112. (New) The method of claim 111 wherein the other functionality is a determined mediator.

113. (New) The method of claim 97 wherein the determining of the type of occurrence includes determining a number of times that the notifying of the determined modules is to occur.

114. (New) The method of claim 97 wherein the determining of the type of occurrence includes determining times during which the notifying of the determined modules is to occur.

115. (New) The method of claim 97 wherein the state attributes represent information about a user of the computer.

116. (New) The method of claim 115 wherein the represented information reflects a modeled mental state of the user.

117. (New) The method of claim 97 wherein the state attributes represent information about the computer.

118. (New) The method of claim 97 wherein the state attributes represent information about a physical environment.

119. (New) The method of claim 97 wherein the state attributes represent information about a cyber-environment of a user of the computer.

120. (New) The method of claim 97 wherein the state attributes represent current predictions about a future state.

121. (New) The method of claim 97 wherein the notifying of a module of a detected occurrence prompts the module to present information to a user of the module.

122. (New) The method of claim 97 wherein the notifying of a module of a detected occurrence includes supplying information about the detected occurrence.

123. (New) The method of claim 97 wherein the determining of the type of occurrence includes determining an event whose occurrences are occurrences of the determined type.

124. (New) A computer-readable medium whose contents cause a computing device to provide information about a current state that is represented with multiple attributes, by performing a method comprising:

automatically analyzing received information related to at least one of the multiple attributes in order to determine at least one type of occurrence that may be of interest to at least one module;

after the determining of the type of occurrence, detecting an occurrence of the determined type; and

notifying the modules of the detected occurrence.

125. (New) The computer-readable medium of claim 124 wherein the computer-readable medium is a memory of the computing device.

126. (New) The computer-readable medium of claim 124 wherein the computer-readable medium is a data transmission medium transmitting a generated data signal containing the contents.

127. (New) A computing device for providing information about a current state that is represented with multiple attributes, comprising:

an analysis component that is capable of analyzing received information related to at least one of the multiple attributes in order to determine at least one type of occurrence that may be of interest to at least one module;

a detection component that is capable of, after the determining of the type of occurrence, detecting an occurrence of the determined type; and

a notifier component that is capable of notifying the modules of the detected occurrence.

128. (New) The computing device of claim 127 wherein the analysis component, the detection component and the notifier component are part of an intermediary module executing in memory of the computing device.

129. (New) The computing device of claim 127 further comprising multiple sources and multiple clients executing in memory of the computing device.

130. (New) A computing device for providing information about a current state that is represented with multiple attributes, comprising:

means for automatically analyzing received information related to at least one of the multiple state attributes in order to determine at least one type of occurrence that may be of interest to at least one module;

means for after the determining of the type of occurrence, detecting an occurrence of the determined type; and

means for notifying the modules of the detected occurrence.

131. (New) A method in a portable computer for providing information about a context that is modeled with multiple context attributes, comprising:

for each of multiple modules,

without receiving instructions to do so from that module, analyzing received information from that module in order to determine at least one type of event whose occurrences are likely to be of interest to the module;

monitoring occurrences of events in order to detect an occurrence of the determined type of event; and

in response to the detecting of the occurrence, notifying that module of the detected occurrence.

132. (New) The method of claim 131 wherein the context attributes represent information about a user of the portable computer.

133. (New) The method of claim 131 wherein the context that is represented is a current context.

134. (New) The method of claim 131 wherein at least one of the determined types of events is availability of a source for supplying values of a specified context attribute.

135. (New) The method of claim 131 wherein at least one of the determined types of events is availability of a specified source for supplying values of at least one context attribute.

136. (New) The method of claim 131 wherein receiving of the notifications by the modules prompts the modules to present information to users.

137. (New) A computer-readable medium containing instructions that when executed cause a computing device to provide information about a context that is modeled with multiple context attributes, by performing a method comprising:

for each of multiple modules,

without receiving instructions to do so from that module, analyzing received information from that module in order to determine at least one type of event whose occurrences are likely to be of interest to the module;

monitoring occurrences of events in order to detect an occurrence of the determined type of event; and

in response to the detecting of the occurrence, notifying that module of the detected occurrence.

138. (New) A portable computer for providing information about a context that is represented with multiple attributes, comprising:

a first component that is capable of, for each of multiple modules, automatically analyzing received information from that module in order to determine at

least one type of event whose occurrences are likely to be of interest to the module and monitoring occurrences of events in order to detect an occurrence of the determined type of event; and

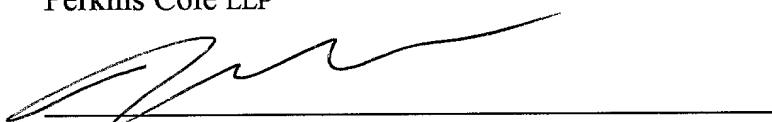
a second component that is capable of, in response to the detecting of an occurrence of a type of event determined to likely be of interest to a module, notifying that module of the detected occurrence.

REMARKS

Applicants have canceled claims 1-71 and 76-81 and have added claims 82-138 in order to clarify the subject matter of their invention. Thus, claims 72-75 and 82-138 are now pending.

Applicants respectfully request consideration of this application and its early allowance.

Respectfully submitted,
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APPENDIX – SPECIFICATION

Paragraphs beginning at Page 1, lines 4 and 11, respectively:

This application is a continuation of U.S. Patent Application No. 09/724,949, filed November 28, 2000 and currently pending. U.S. Patent Application No. 09/724,949 [This application] is a continuation-in-part of U.S. Patent Application No. 09/216,193, entitled “METHOD AND SYSTEM FOR CONTROLLING PRESENTATION OF INFORMATION TO A USER BASED ON THE USER’S CONDITION” and filed December 18, 1998, and a continuation-in-part of U.S. Patent Application No. 09/464,659, entitled “STORING AND RECALLING INFORMATION TO AUGMENT HUMAN MEMORIES” and filed December 15, 1999, both of which [. Both of these applications] are hereby incorporated by reference in their entirety.

U.S. Patent Application No. 09/724,949 [This application] also claims the benefit of provisional U.S. Patent Application No. 60/194,222 (Attorney Docket No. 294438022US), entitled “SUPPLYING NOTIFICATIONS RELATED TO SUPPLY AND CONSUMPTION OF USER CONTEXT DATA” and filed April 2, 2000, and of provisional U.S. Patent Application No. 60/193,999 (Attorney Docket No. 294438008US), entitled “OBTAINING AND USING CONTEXTUAL DATA FOR SELECTED TASKS OR SCENARIOS, SUCH AS FOR A WEARABLE PERSONAL COMPUTER” and filed April 2, 2000, both of which are [. These applications are both] hereby incorporated by reference in their entirety.